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## Forward

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This document -- "Historical Outline on the Question of Swiss Nuclear Armament" is an English translation of an extract from a Swiss Government report "Historischer Abriss zur Frage einer Schweizer Nuklearbewaffnung". The original report is believed to have been authored in 1996 by Jurg Stussi, who has been described as the Swiss government's senior military historian.

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## Historical Outline on the Question of Swiss Nuclear Armament

Jurg Stussi - Lauterburg, April 1996 (Federal Administration, Bern)

### Preface

This paper consists of an introduction, a chronicle of the years 1965 to 1988 and a summary. While the Introduction is largely a resum, of known facts from a time for which the files are accessible to researchers in the Federal Archives, the Chronicle concerns the subsequent period based on the collection of internal files collected by the Head of General Staff, Corps Commander Arthur Liener, on instruction by the President of the Federal Council, Kaspar Villiger.

### 1. Introduction

Specialised circles of researchers in Switzerland had already devoted attention to the question of the atom bomb before it even existed. The physicist Paul Scherrer (1890-1969), Professor at the Eidgenössische Technische Hochschule Zürich (Swiss Confederate Technical College) even succeeded in inviting his German specialist colleague Werner Heisenberg to present a guest lecture in the Limmat-metropolis [i.e. Zürich] and to introduce him to an American who was associated with the Office of Strategic Services and whose task it was to establish how far the German efforts with respect to an atom bomb had progressed. Thomas Powers proves this quite remarkably in his book "Heisenberg's war" (London: Jonathan Cape, 1993, EMB (Federal Military Library No.) D 1329) based on the American files. The fact that Scherrer thereafter became our key man for the further development, is well-known, insofar as the civilian side of things is concerned: The Institutes of Villigen and Würenlingen, united under his name, are the monument that a practically- oriented people has set to an eminent scholar. Due to a lack of source materials (or, respectively, a lack of time to search for and evaluate the materials available in internal and foreign, particularly American archives), it is a open question exactly which role Scherrer played in the military endeavour, starting as early as 1945, toward the development of nuclear energy for the benefit of the country, i.e. for the construction of a bomb as a means of dissuasion. However, it has been established that the "Study Commission for Nuclear Energy" worked out the fundamental principles since 1945. The Federal Council of Ministers who officially appointed the SKA (Study Commission for Nuclear Energy) on 8 June 1946, requested from Parliament a federal resolution on the promotion of research in the field of nuclear energy. Karl Kobelt, Minister of State, emphasised the military aspects of this issue strongly enough, but also stated that a nuclear armament was not planned, which was nearly self- evident in the situation of 1946 and given the objective conditions; however, this was a rather liberal interpretation of classified instructions to the SKA. Had he stated the contrary, he would have made the plan impossible because this would have triggered irresistible political pressure from abroad. These matters have already been, and will continue to be, the subject of historical investigations.

However, around 1955, it can be assumed that the efforts towards a Swiss nuclear bomb would have slowed down somewhat. The so- called Chevalier-Initiative of 2 December 1954, named after its initiator, which aimed at cutting military expenditure by half and utilising the funds released thereby in specified projects, was declared null and void by Parliament. Samuel Chevalier submitted two further initiatives with similar intent on 17 October 1956. His lack of realism was, however, all too clearly underlined by the bloody suppression of the uprising of the Hungarian people by Soviet tanks as from 5 November 1956. The acute phase of the Cold War had begun. Decisive factors would have been the

November 1956. The acute phase of the Cold War had begun. Decisive factors would have been the shooting down of an American U-2 reconnaissance aircraft by the Soviet Union in 1960, and the Cuban Crisis in the year 1962, when a mere word held the balance between the world and a nuclear exchange of blows: President John Fitzgerald Kennedy decreed a Quarantine against Fidel Castro's island. Had he, with the exact same behaviour of the American navy, ordered a Blockade, this would have constituted a deed of war under international law.

In this situation, where world politics were anything but reassuring, the authorities and sovereign of a neutral small state, the majority of whom had been moulded by their experience of holding out against Adolf Hitler's Reich, had to find a path to modern security politics. As in other fields, the various options on the issue of a possible nuclear armament were not merely handled by state offices but also discussed in public. On 29 March 1957, the first meeting of the "Study Commission for the possible acquisition of own nuclear arms" was held. This was an organ of the Head of General Staff, Louis de Montmollin, who declared the matter as secret and expressly prohibited any contact with third persons not authorised by himself. The aim was to give the Federal Council of Ministers an orientation towards "the possibility of the acquisition of nuclear arms in Switzerland". In March 1957, apart from Montmollin himself, the initiates were the Lower Chief of Staff, Front Divisional Colonel Jacques de Boissier; Colonel in the General Staff, Peter Burckhardt; Professor Doctor Rudolf Bindschedler, Head of Legal Services of the Swiss Federal Political Department; the Delegate for Issues of Nuclear Energy, Doctor Otto Zipfel; his deputy, Jakob Burckhardt; the Director of the Reaktor AG company, Doctor Rudolf Sontheim, as well as General Staff Colonels Henri Hess and Georg Heberlein. The Swiss Officers Association, on its behalf, approved nuclear arms as a significant reinforcement of national defence in spring of the same year 1957, whereas only a year later, the initiative committee for the Swiss Movement against Nuclear Armament began collecting signatures for an Article 20bis of the Federal Constitution, which would have prohibited "the manufacture, import, transit, storage and utilization of nuclear arms of all types". First of all, this challenged the Federal Council of Ministers. On 11 July 1958, the staff released a declaration of principle in this matter, which states: "In agreement with our centuries-old tradition of defensive fortification, the Federal Council of Ministers is therefore of the opinion that the army must be given the most effective weapons for the preservation of our independence and for the protection of our neutrality. This includes nuclear weapons. The Federal Council of Ministers has, consequently, instructed the Federal Military Department to continue investigating the issues arising from the introduction of nuclear weapons into our Army, and to submit to the Federal Council of Ministers at a suitable time a report on and application for such." The fact that this declaration was criticised, among others, by the Soviet news agency TASS, could only have a stimulating effect since this was the officious statement by the most likely opponent (for the overall context, compare Dominique Metzler's licentiate thesis "The option of nuclear armament for the Swiss Army (1945-1969)", Aarburg: Dominique Metzler, 1995). Although the officers who participated in the Federal Defense Commission (LVK) which served as advisor to the Chairman to the EMD (Federal Military Department), considered a Swiss atom bomb more as an operative and tactical measure, there were nonetheless voices such as that of the commander of the Airforce and Anti-aircraft Corps, Etienne Primault, who, according to the minutes, declared on 29 November 1957, "If one had an aircraft such as the mirage, for example, which is capable of flying to Moscow with atom bombs on board, then a deployment of these in enemy territory could very well be imagined." This opinion, however, was only acceptable as a military-technological evaluation of the matter, because, politically, the Federal Council of Ministers had no intentions at all of making Switzerland into the fourth nuclear power behind the USA, the USSR and Great Britain. On the contrary, on 7 October 1958, Bindschedler declared in an aide-memoire to the Swedish ambassador, "The Swiss Army would be equipped with nuclear weapons only under the condition that the monopoly on nuclear power could no longer be upheld by the three world powers. The problem thus only arises once this monopoly no longer exists."

The Federal Council of Ministers did, however, want to be on guard against this case, which was not so unlikely, after all. The Council thus instructed the Federal Military Department (EMD) on 23 December 1958 to investigate the effects, the acquisition, the purchase and the manufacture of nuclear arms and then to submit the report and application. Such investigations abroad were to be conducted "in keeping with all aspects of the policy of neutrality and in close co-operation with the Federal Political Department." Research into uranium deposits, mentioned in the same resolution, was considered to be of civil and military importance. The Federal Council of Ministers approved the accompanying report from the Finance and Customs Departments, according to which the required credits had to appear separately

the Finance and Customs Departments, according to which the required credits had to appear separately in the budget.

The initiative on the prohibition of nuclear arms was submitted on 29 April 1959. The Social Democratic Party of Switzerland, now also forced to move, submitted its own initiative on 24 July 1959 which provided for a compulsory Referendum on the "decision on equipping the Swiss Army with nuclear arms of whichever type".

The Federal Council of Ministers announced the state of its evaluation of the situation with its message on the Regulations on Troops on 30 June 1960, stating, "Although the possibility of acquiring nuclear arms from abroad or manufacturing them inside the country, is presently lacking, this should not cause us to altogether sacrifice the concept of this most effective reinforcement of our military defense of the country. The development should be pursued attentively, so that options arising at a later stage can then be considered, should the situation arise."

This was the evaluation by the colleagues. After all, on 14 March 1960, Colonel Corps commander Jakob Annasohn, Chief of General Staff, had actually applied to the Federal Military Department (EMD) to obtain offers for the purchase of nuclear arms on a commercial basis from the USA, Great Britain and the Soviet Union, but on the other hand applied to offer France and Sweden co-operation in the area of "essais" [trials]. The Federal Council of Ministers refused such ideas altogether. It did not only reject such negotiations at the time, it also decreed in all formality that "the conducting of such clarifications could only be authorised on the basis of a later decision of the Federal Council of Ministers."

However, the Swiss attitude gave reason for concern among the nuclear powers (which included France since 13 February 1960), despite the reservation of the authorities. An American sense of disquiet, albeit only a hint in the available files, could be discerned as from 1961. In the same year (on 25 April), the Federal Council of Ministers applied to Parliament to purchase that aircraft of which Divisional Colonel Etienne Primault had spoken with much praise in 1957. 100 Mirage III S were to be purchased for a total 871 million (Swiss) Francs.

In its report on the initiative for the prohibition of nuclear arms dated 7 July 1961, the Federal Council of Ministers once again expressed its opinion on the issue of a possible nuclear armament, "In our report, we have, on purpose, not mentioned the acquisition of nuclear arms, be it by means of purchase, by own development or by manufacture under licence. The question remains open until an option for acquisition arises, and if this is under such conditions that neither affect our sovereignty, nor our neutrality in any manner whatsoever. This is not the case at present. Decisions with respect to the acquisition, which at any rate would be a matter resorting under the Federal Councils' authority, have therefore neither been taken, nor are they imminent."

The sovereign power [people's referendum] rejected the initiative on 1 April 1962 with 537.138 to 286.895 votes. 18 cantons (districts represented in the Upper Chamber of Parliament) declined, 4 consented.

In its supplementary report on the initiative to hold a referendum on nuclear arms, the Federal Council of Ministers adapted the points of emphasis to the other wording in the original document, and subsequently stated, on 15 November 1962:

"Whether our Army can one day be armed with nuclear weapons, is first of all a question of military politics and military technology. It would not be responsible from a point of view of national defense, to subject the decision on this matter to the passionate atmosphere of a public referendum, quite apart from the fact that situations are conceivable where the equipment of our army with nuclear weapons would have to be controlled by rigorous secrecy regulations. If these were observed, there would be a risk that the population could come to a wrong decision due to partial ignorance of the full state of affairs; however, if one were to transgress these, then we would risk non-delivery of the weapons to us or - at best - that their effectiveness would be reduced since their details might also be known to an enemy. On the other hand, a comprehensive and specialist examination of this fundamental decision, too, will be guaranteed by the factual atmosphere in the consultations of the commissions of senior officials, their

experience and specialised knowledge, as well as by the possibility of providing them with all the necessary information. Only the conventional mode of procuring arms, corresponding to the order of competencies to date, is able to guarantee the optimal status of our uncompromising preparedness for defense."

To truly appreciate this use of language, one must remember that President Kennedy only lifted the Quarantine on Cuba five days later, on 20 November. The majority of Swiss felt threatened as a whole, and in actual fact, since 1963, the valid plan of operation of the Warsaw convention as set out by General Jan Sejna (living in the West since 1968) foresaw that Switzerland would be the target of a strategic attack immediately after the outbreak of a possible war (We will bury you, London: Sidgwick & Jackson, 1982; EMB (Federal Military Library No.) Ve 2024). Naturally, such plans were not known to us here in 1963; however, there was certainly a sense of their existence.

The planners went to work with the appropriate sense of earnestness in 1963 and 1964. The Lower Chief of Staff for Planning, Chief Divisional Colonel Eugen Studer, now urged for clarifications with countries abroad, but once again Professor Bindschedler put a damper on his efforts. In his letter dated 4 July 1963, Bindschedler sided with the conclusions of a study on foreign policy and international law which, with a somewhat sybilline tenor reminding of La Charit,-sur-Loire, had ended on the note,

[french text] "The possibilities are not encouraging; one could hardly avoid foreseeing normal contacts of the General Staff which could secretly be extended to the issues of the study."

This attitude was, no doubt, in full agreement with the public opinion of the time, considering that the initiative for a referendum on nuclear arms was rejected with 451.238 against 274.061 votes and by 17« estates against 4«.

The accession to the Moscow agreement of 5 August 1963, on the interdict on nuclear arms experiments in the air, in space and under water, did not contradict the clarifications for the event of a possible Swiss nuclear armament. Hence, on 18 December 1963, the correspondent for the National Council Commission, Willi Bretscher, said, "We are in a position ... even after signing the agreement, to further pursue the problem of our own nuclear armament, and we shall make our decisions depending on the evaluation of further developments in this field."

This further development which the well-informed chief editor of the Neue Zürcher Zeitung and statesman, was keeping in mind, could be the own (domestic) manufacture, a joint venture e.g. with Sweden, or, as the Lower Chief of General Staff: Planning had stated in a communication to the Chief of General Staff on 21 October 1963, also "in the purchase of nuclear arms abroad on a purely commercial basis, particularly in France". On 28 November 1963, the Lower Chief of General Staff: Planning, calculated costs of 720 million (Swiss) francs over 35 years, initially including 20 million francs for pure research. Should the decision be for Plutonium instead of super-enriched Uranium, then the estimate would be 2.100 million francs over 27 years. The precise action was drawn up on 21 March 1964 by Doctor Paul Schmid in an eleven-page paper entitled Suggestions relevant to the execution of such preliminary work for a possible nuclear armament, as is of predominantly military importance.

The sub-group Planning had in the meantime developed a concept of the first-level military demand: "50 aircraft bombs @ 60-100 KT (Mirage)" was the designated quantity on 4 May 1964. Studer himself had, on 8 April, signed a five-page document on the "feasibility of nuclear weapon tests in Switzerland", in which cavern detonations in a region "where an area with a radius of 2-3 km can be sealed off completely" were envisaged. Furthermore, there is proof that Studer still knew, on 30 October 1963, about the Uranium reserve of the Federal State which was by no means a secret despite the classified stamps on the documents, since National Council member, Alfred Schaller, had, on 8 September 1958 in the Schweizer Illustrierte Zeitung, quite openly spoken of "10 tons of natural Uranium", purchased from Belgium, refined in England", and had furthermore written that "tons" of this material were lying in the "duty of care" of the Wimmis powder factory. Eugen Studer's studies were further developments of the

Possibilities of an own manufacture of nuclear weapons, that 58- page thick, unsigned report which had laid the theoretical foundations for a nuclear armament of Switzerland on 15 November 1963, and about which the USA had apparently come to hear (much to its consternation) while it was in preparation. Perhaps the Swiss development would have continued on the track outlined in 1958. However, after the message about the additional credit for the Mirage, dated 24 April 1964, other rules for the game became evident. On that day, the Federal Council of Ministers decided to request a further credit of 576 million francs for the acquisition of the Mirages, which triggered a widespread lack of comprehension and caused the first parliamentary investigation commission in the history of the modern federal state. Accurately on the same 24th of April, the Chief of General Staff applied to the Head of the Federal Military Department to make available 20 million francs for tracing Uranium sources inside the country within three years, to bring the issue of centrifuges closer to a conclusion and to clarify the issues of nuclear weapon technology and possibilities for experiments.

Despite the Mirage-affair, the experts were nonetheless convinced to be acting in the interests of the sovereign state. The atmosphere of 1964 also led to the courageous opinion of an expert who stated that "the clarification process toward the acquisition of nuclear weapons should not be kept secret from the general public", a point of view that was supported by Annasohn, Head of General Staff, on 14 May at the Chairman of the Department, "Dr Schmid has declared that it contradicts his character to constantly have to lie, instead of honestly saying what the clarification process is all about. He is of the opinion, rightfully in my eyes, that the preliminary clarifications, after all, do not in the least constitute a decision towards the acquisition of nuclear weapons. This decision will remain entirely and totally excluded."

How a parliamentary decision, necessary at least for the budget credit, could be effected under the circumstances of the Mirage- affair, became more and more unclear as the delay continued. On 1 September, the commissions of inquiry of the National Assembly and the Upper Chamber published their report in which the following wording can be found, "Parliament was indeed misled. In the interest of the State, its duty is to ensure that such a process will not be repeated. The credibility of messages from the Minister's Council must be guaranteed by the Executive." The number of aircraft to be purchased was reduced to 57, and the motion included a demand for a Chief of Armament, a panel of experts on defense issues, a clear delineation between development and the acquisition of armament material as well as instructions to secure dates and costs, and the submission of tasks to technical and commercial control.

The Federal Council of Ministers could not have been aware of this conclusion by the study-group of the commissions Kurt Furgler and Gion Darms on 5 June 1964, but its reaction to the applications by the EMD was sceptical. Although the colleagues took note of the report MAP (Possibilities for own nuclear arms production) and instructed the EVED (Federal Traffic and Energy Science Department) and the EMD (Federal Military Department) to assimilate the documents necessary for decision-making over approximately three years, but the EMD was obliged to reduce the costs to the activity of one expert in the Department of General Staff, and once again it was stated about contacts abroad, "Before the introduction of the necessary steps, it [the EMD] must obtain the permission of the Federal Council of Ministers."

Schmid and Annasohn's suggestions to conduct the necessary clarifications quite openly, had remained without consequences. On the other hand it was impossible to uphold secrecy, as the well-informed interpellation of National Council member, Helmut Hubacher, on 9 December 1964 indicates: "Does an instance exist within the Federal Military Department that concerns itself with the question of nuclear armament, should the need arise, or with the mere manufacture of nuclear arms or their testing within our own country? If so, of which persons does this specialist body consist?" Etienne Primault and Jakob Annasohn had already left. What was the situation of Minister of State, Paul Chaudet? Would he stay and soon, in the election year of 1967, become the mortgage for his party, or would he leave and thereby allow the EMD as well as his party to appear weak for the moment?

### 3. SUMMARY

Scientifically speaking, in 1945, no other small state was better prepared for the nuclear age than

Switzerland. The connections which Paul Scherrer had formed during war times with the Americans, who were now leading in the field, warranted this already. The corresponding self-assurance may have led the Federal Council of Ministers to decide, first in secrecy and in 1958 quite openly, to equip the army with the most effective weapons, i.e. nuclear arms. In this context, active service experience in the successful self-conservation - thanks to a combination of willingness to compromise and a clearly manifested will for self-defense - played as much of a role as the fear of the hegemonical claims of the communist superpower, illustrated beyond doubt in the Soviet invasion of Hungary in 1956.

However, the process was slowed down considerably due to uncertainty whether the feared German nuclear armament would take place, also due to a long tradition of democratic legitimation of political decisions, as well as to the permanent battle for restricted resources. Finally, the people and the chambers of government gave a stimulating signal by rejecting an initiative towards the prohibition of nuclear arms on 1 April 1962. A phase of intensive work began, the most important result of which was the report on the possibilities of own nuclear production, in 1963. Due to their large extent, these efforts could not be kept entirely secret and are likely to have increased American efforts towards a non-proliferation treaty. Such efforts were most probably not directed specifically at Switzerland but rather referred to the model that it might parade to others. The deciding turn to the Swiss efforts came with the Mirage-affair: on 24 April 1964, the Federal Council of Ministers applied for an additional credit of 567 million francs from Parliament, toward the acquisition of fighter aircraft Mirage-III S. This desire led to a parliamentary investigation, to a reduction in numbers ordered, to the abdication of the Chief of General Staff and of the Commander of the Air Force and Anti-Aircraft Troops as well as causing a rupture in Parliament's trust in the Federal Council of Ministers, and of the Federal Council of Ministers in the Military Department. These were no times to be granted the 20 million francs over three years for which Paul Chaudet had applied, particularly not if an overall cost estimate of 720 million francs was implied beyond this and since undesirable experiences had just been made, and were still being made, with such amounts for military projects. On 5 June 1964, the Federal Council of Ministers thus only granted the employment of a specialist in the office of the General Staff Department.

Thereby, a contradiction had arisen between the federal aim of equipping the army with nuclear arms, declared in 1958 and never recalled, and the feasible minimum option in view of rigorous constraints. The Federal Council in 1965, however, was in no hurry to clear up the matter as requested by Paul Chaudet. In a declaration in the Von Wattenwyl-House on 26 October 1965, the colleagues finally agreed that the civil aspects of the nuclear issue were the clear priority. On 28 January 1966, the Federal Council of Ministers decided in all formality to realise and implement the measures and work applied for by the Department of Military and the Military Delegation of the Federal Council of Ministers (but worded by the delegate for issues of nuclear energy); however, the initiative was to be handed to the EVED (Federal Traffic and Energy Science Department). The concept of the country's military defense dated 6.6.66 specified in the same year that only a further extension of nuclear arms would force Switzerland to decide whether to purchase them or not, and that the running clarifications were based on this fact.

Nello Celio who became head of the Military Department in 1967, was sceptical of the nuclear arms issues. He clashed with concepts that the sub-group planning of the Group for General Staff Services had developed, which stated that a working group should be founded, begin operating and grow over 5 years from 15 to 52 full-time members. Since Celio was also of the opinion that it would be wrong to sign the proposed treaty on banning nuclear arms without *Quid pro quo*, he did not give the red light to start appointing a secret Coordination Council based on the decision of the Federal Council on 28 January 1966, but allowed only two to three colleagues to dedicate themselves to this theme on a full-time basis. This implied maintaining the freedom of action, but not construction of the bomb. The planning tasks were taken further within the group for General Staff Services. The Operations Section calculated an annual financial budget of 100 to 175 million francs in 1968, for the development and acquisition on the basis of Uranium which was cheaper. This aimed solely at procuring, until 15 years later, 400 nuclear warheads for the existing fighter aircraft, for the missile launchers and for a guided missile system that was still to be acquired. Apart from other phenomena implied by the year 1968, this was sufficient background for Celio's rejection of the planned secret Coordination Committee in May 1968. However, the Chief of General Staff subsequently achieved a re-evaluation and once again got the green light; Celio on the other hand moved over to the Finance Department on 1 July 1968, on precisely the day

when the treaty on non-proliferation of nuclear arms was signed in London, Moscow and Washington.

From then on, the Finance Department sent clear signs against a Swiss nuclear armament. Hence, in 1969, the Federal Financial Administration refused to include 1'500'000 francs for the purpose of developing Uranium centrifuges, into the 1970 budget. On a political level, the Federal Council of Ministers closed the gap in policy that had already narrowed substantially since the Mirage-affair, by its decision to sign the treaty on non-proliferation of nuclear arms on 27 November 1969. Even though, in terms of International law, the Swiss renunciation only became effective with the ratification on 9 March 1977, the only conceivable option now was to provide Switzerland with the necessary specialist knowledge to be considered a threshold country, which at the same time safeguarded the freedom of activity for the event of the treaty being broken. To assure this on a practical level, was the task of the Working Committee for Nuclear Issues (AAA) with a Scientific Advisory Council, created on 30 April 1969 by the EMD (Federal Military Department) in consultation with the EPD (Federal Political Department), EDI (Federal Department for the Interior) and EVED (Federal Traffic and Energy Science Department). The AAA met altogether 27 times during its period of existence (30.4.1969 - 31.12.1988), which is less than twice a year on average, and this alone proves that the issues could not have been more than preparatory measures to keep open the option of a purchase decision for the Federal Council of Ministers, should an entirely different international situation arise; such as a nuclear armament of Germany in conjunction with a failure of the non-proliferation treaty.

The budgeted finance for these tasks was in accordance with this state of affairs. For the time from 1970 until 1972, the overall total came to SFr. 67'949.30, including the salaries of two physical scientists who were for a certain time part of the Scientific Advisory Council. Chief of General Staff, Johann Jakob Vischer, declared the cessation of operations of DIORIT in Wrenlingen as harmless in military terms, even though this may have taken a chip out of the original construction - the development of specialists particularly suited for arms technology through work on the heavy water reactor. For further work, Vischer wanted to place the emphasis on enrichment technology, basing his decision also on the judgement of his military specialists. The will to become a nuclear threshold power, however, "did not seem clearly distinguishable to him, at least not on government level".

Due to the ratification decision by the Upper Chamber, who was the first instance to handle the business and had originally rejected the task of preparing an additional report, the year 1976 brought about a certain sobering effect among the members of the AAA and of the Scientific Advisory Board. It was decided to disband the latter since there was no longer a need for it, but the AAA continued to work further, thanks to a slightly adapted Decree of 1977.

The theoretical basis for the work of the AAA in the period from 1977 to 1988 was constituted by a document entitled Swiss Politics in the Question of Nuclear Armament, edited by Lower Chief of Staff: Front, Josef Feldmann. This document concludes that Switzerland has a vested interest in taking all measures permitted in the framework of the NPT (Non Proliferation Treaty) which are suited to secure its status as a nuclear threshold power, and maintain it on a long-term basis." However, the studies required for this now stood in incessant competition for scarce finance, against other projects which were easier to carry into the AAA since the disbanding of the Scientific Advisory Council, and which had nothing to do with the original task but needed an AAA legitimation, such as measures for protection against the nuclear electro-magnetic impulse (NEMP). Around this time, the Chief of Armament and his group for armament services - whose posts existed thanks to the Mirage affair and who embodied the best qualifications in their field to assess the difficulties of an eventual acquisition - were steering the discussions in the AAA away from questions on the triggering mechanism and other concrete arms-technological issues to other matters, with verve and finally with success. Naturally, this in no way prevented the completion of such AAA-tasks as the edition of a technical study on the rise of Switzerland to a threshold power, which the AAA had to update periodically. This was a task issued by the Chief of General Staff, now Hans Senn, on 28 September 1979. Further, Senn's instruction reads: "In the event that the political or technological development leads to an entirely new evaluation of the situation, the AAA shall in good time apply for the measures to be taken."

On 12 August 1981 however, the political development seemed to give the Federal Council of Ministers permission to abandon the secrecy around the Uranium reserves in the State, to place them under

international control within the framework of the Non-Proliferation Treaty, to transfer the right of control to the EVED (Federal Traffic and Energy Science Department) which had to be a member of the AAA, but nothing more than that. At least, this is what the colleagues believed to have decided, since the *Schweizer Illustrierte Zeitung* had, in fact, already published the presence and place of storage of this supply in 1958, which seems to have been forgotten by everybody in the meantime. In the AAA, on several occasions, discussions had been held around the riddle of how to purchase natural Uranium and store it, just to be sure; but no-one had pointed out that five and a half tons of it were actually already lying in Wimmis.

The decision of the Federal Council of Ministers in 1981 showed clearly that on this level - after all, the AAA still had to be heard due to the remaining insecurity - there was little doubt as to the permanence of the Non-Proliferation Treaty, and that Swiss nuclear armament was now a historical issue.

Indeed, in the AAA, the meaningfulness of nuclear armament became increasingly contested during the first half of the 'eighties. Neither the continuation of the (??) WK-work nor new tasks such as evaluating the possibilities of a so-called do-it-yourself bomb (*Bastlerbombe*), a makeshift nuclear bomb, could cover this fact. The fact remains that mere studies can have substantial importance, though, as the request of the German military attach, in 1985 proves: He was perfectly well-informed about the studies completed, knew authors and titles and wished to acquire some of these now. It is not entirely clear from the files whether he did receive them; however, the technical secretary of the AAA was not surprised about this enquiry and furthermore, he applied for permission to partially grant this request and to do so in a type of barter, with a corresponding counter-offer. As usual in the intelligence service of all times and countries, there seems to exist a kind of bazaar even in classified science: at least this seems the obvious conclusion. Two further thoughts immediately arise: other countries, too, are occupied with the possibility of a breakdown of the Non-Proliferation Treaty and are preparing for this event at least as a theoretical concept. Hence, one can derive that, due to the long duration of the work and the numerous and unavoidable personal and institutional changes, other things had also been forgotten, apart from the publication of the Uranium reserves in the "*Schweizer Illustrierte*", i.e. in this case the clear federal prohibition on foreign contacts in this field without express prior permission from the meeting of colleagues. Finally, one is impressed by the level of discipline maintained, because with only a little imagination, one can calculate the publicist and political consequences should the matter have become known at the time, even though the exchange of studies surely did not constitute a breach of the Non-Proliferation Treaty.

Within the AAA, the spirit of Geneva initiated by Ronald Reagan and Mikhail Gorbachev in 1985 accentuated the question whether there was meaning to its endeavour, all the more. On the last day of this significant year in global history, Divisional Commander Gerard de Loes, chairman of the AAA, directed a letter to the Minister of State, Jean-Pascal Delamuraz, and asked him to appeal to the Federal Council of Ministers to officially establish that Switzerland still wished to be a nuclear threshold country. In 1986 De Loes, visibly disappointed by the reserve of the Departmental Head towards this matter, openly contemplated the dissolution of the AAA, since he allegedly did not have the mandate. In reality, he probably lacked the confidence and faith that the existing mandate was meaningful, which moved him to secure the backing by the Federal Council of Ministers. In a GRD (Group for Armament Services)-study that was nonetheless commissioned, the "*brisance de la question*" (explosive nature of the issue) was emphasised and the appropriateness of the matter was questioned.

The members of the AAA were by no means the only ones to ask these questions. In two questions asked within the span of one week in 1987, National Council member, Paul Rechsteiner, wanted to know, among other things, whether the Group for Nuclear Issues headed by the EMD (Federal Military Department) still existed within the administration and if so, for what reason. The Federal Council of Ministers answered that the AAA did still exist, but that no decision had been taken whether its term of office would be extended again beyond 1988. At this time, the Head of General Staff, Corps Commander Eugen Lthy, had already signalled that he supported the dissolution applied for by the AAA, as the only meaningful task still left in view of the status as a threshold state.

Finally, it remained for the AAA to apply for its own dissolution, which was decided unanimously with one abstention. Accordingly, on 1 November 1988, Minister of State, Arnold Koller, drew the final stroke

under the issue of a Swiss nuclear armament.

A Atomic  
AAA Working committee for nuclear issues  
BKW Bern Power Plants  
BOA Advisory body for nuclear issues  
BR Minister(s) of State  
BRB Minister(s) of State decision/resolution  
C EMD Head of the Federal Military Department  
DMV Directorate of the Military Administration  
EDA Federal Department for Foreign Affairs  
EDI Federal Department for the Interior  
EIR Federal Institute for Reactor Research  
EK Supplementary Course  
EMB Federal Military Library  
EMD Federal Military Department  
EMG Major General of Staff  
EPD Federal Political Department  
ETH Federal College of Technical Higher Education  
EVED Federal Traffic and Energy Science Department  
FA Research Committee  
FSFO Specialist Sections and Research  
GAA Secret Working committee for Questions of Nuclear Armament  
GDA Groupement de l'armement (Group on armament)  
GRD Group for Armament Services  
KFLF Commando for airforce and anti-aircraft troops  
KTA War-technological Department  
MAP Possibilities for own nuclear arms production  
NPT Non Proliferation Treaty  
RFA Federal Republic of Germany